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ABSTRACT

An investigation was conducted to examine the relationship between goal-setting behavior and the Conceptual Level Model (CLM), an interactive theory of development that considers progression or growth to be determined both by the learner's present developmental stage and by the environment he experiences. Conceptual Level (CL) is an index of learner personality organization while the basic environmental variation is the degree of structure. A literature review suggested that (1) the ability to set clear, specific learning goals is an important and desirable aspect of most self-directed learning attempts and (2) a considerable number of learners experience difficulty with this task. A questionnaire was designed and distributed to 106 students in selected classes in the Department of Adult Education at OISE during the 1975 summer session. Data were collected concerning the subjects' (1) perceptions as to whether they had set at least one learning goal for the course; (2) ratings of the adequacy of their goals; (3) attitudes toward the utility and importance of goals; (4) perceptions of environmental structure; and (5) Conceptual Level. Four variables which were found to affect goal-setting are time into the duration of the course, attitude toward goals, Conceptual Level, and degree of structure. (Their effect, importance, and potential usefulness to the instructor or program planner are discussed.) (EM)

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THE RELATIONSHIP OF EDUCATIONAL GOAL-SETTING BEHAVIOR TO THE CONCEPTUAL LEVEL MODEL

AERC, 1977

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Introduction

As some have argued, one of the ways in which we can better meet the needs of adult learners in formal education settings is to encourage these learners to at least participate in the planning and carrying out of their own learning. In settings which encourage some aspects of "self-direction," the learners at least share in decision-making which affects the direction and efficacy of their learning. These "self-directed" learners must acquire at least minimal levels of competence in performing tasks which traditionally have often been the responsibility of others. One of these tasks, that of goal-setting, is the central concern of this paper.

The paper is primarily directed to reporting the results of a study to examine the relationship between goal-setting and the Conceptual Level Model. Within the scope of this discussion, primary emphasis is placed on reporting the results with only brief mention of the theoretical background. This background in itself is a sufficient topic for another, lengthier discussion.

Background

My review of selected literature suggests that:

1) the ability to set clear, specific learning goals is an important and a desirable aspect of most "self-directed" learning attempts and

2) a considerable number of learners experience difficulty with this task.

For instance, the Kirns suggest that, "self-knowledge must be focussed in order to contribute to practical progress. (Kirn and Kirn, 1974, p. 191). Joyce and Weil similarly point out that, "one of the objectives in developing a capacity for self-instruction is skill in selecting personal learning goals." (Joyce and Weil, 1972, p. 323). Or as Jones states, "...the process of learning is erratic and ineffective when objectives are not clear." (Jones, 1972, p. 133 - 34).

However, as is often the case, there are some differences between what some educators think should happen and what learners actually do. McLagan points out that some learners can develop skills on seemingly very sketchy goals. (McLagan, 1976, p. 2). Allen Tough in his work with self-directed learners found that learners not only often express vague motivations or goals but also experience difficulty with the goal-setting task. (Tough, 1967, p. 42-57). And, although Tough's work should be related to formal education settings with a degree of caution, it is my experience and perhaps yours too that goal-setting is a difficulty for some learners in formal education settings as well.

The facilitation of goal-setting in "self-directed" settings has been a concern of mine for some time. I have had a limited amount of

experience with methods or tools design to assist the goal-setting process most of which centre around the idea of comparing present versus desired competencies. Their usefulness had been variable. They appear to help some but not others. I have encountered some learners who protest against these logical, reasoned processes and prefer to function more on intuitive and "aha" types of experiences and conclusions.

This variation in individual goal-setting behavior, not only the extent to which learners actually set goals but also the extent to which these goals are adequate for the purposes of the learner, was the concern of the study.

As is likely the case for most learners, learning goals exist in complex relationships with other needs and goals of the learner. They have some relationship with the past, present, and projected future of the learner. The study of goal-setting behavior amidst these complexities by an examination of the forces or elements brought to bear on the goal-setting process, some of which exist at low levels of awareness, did not seem useful.

Considered from another direction, goals themselves are the likely result of learning taken in its broadest context. Learners learn, discover, become aware of what they want to learn. It was considered likely that the perception and organization of an often complex range of stimuli are essential aspects of the goal-setting

process. There is a portion of the literature which suggests that there are differences in the manner in which learners perceive and organize stimuli and in their capcity to deal with a complex range of stimuli. These differences are related to learners' conceptual or cognitive orientation. (Cohen, Hunt, Schroder, Witkin). Thus, it seemed there might be a relationship between a learner's cognitive or conceptual orientation and his or her goal-setting behavior. (Schroder, 1967, p. 36).

David Hunt's Conceptual Level Model was chosen as an index of the learners' cognitive orientation. Learners with different Conceptual Levels tend to function more effectively in environments with different degrees of structure. Conceptual Level is an index of learner personality organization varying on a continuous dimension of integrative complexity defined in terms of differentiation, discrimination, and integration as well as the learner's level of interpersonal maturity or the capacity to deal with increasing self-responsibility. (Hunt, 1971, p. 35 - 6).

For the purpose of this investigation, learners with a greater integrative complexity were seen to be more able to envision and evaluate a range of goal alternatives as well as being more able to place these goal alternatives into clearer perspective with their own and others' needs. Within limits, as the number of perceived goal alternatives increases the greater is the ability of learners with a

greater integrative complexity to continue to discriminate between various goal alternatives and to formulate new and unique relationships between these alternatives. Uniqueness, in this context, is used to refer to the extent goal alternatives are derived from or relate to the needs of the learner.

Learners with a lower level of integrative complexity, given a larger number of goal alternatives, make fewer discriminations between goal alternatives, make fewer interconnections between goal alternatives and are less able to formulate new and unique goal alternatives, than learners with a higher level of integrative complexity.

Hunt considers Conceptual Level to be an interactive concept. The Conceptual Level Model is an interactive theory of development that considers progression or growth to be determined both by the learners present developmental stage and by the environment he experiences.

The basic dimension of environmental variation is considered to be the degree of structure. Degree of structure is operationally defined for this study as the extent to which either the training agent or the learner make decisions which determine the learning environment. In low structure environments the learner is at least as important as the training agent in determining the environment. In high structure environments, the training agent is largely responsible for determining

the learning environment. (Hunt, 1971, p. 213 - 14).

The Conceptual Level Model is based on Hunt's finding that low CL learners will profit more from high structure and high CL learners will profit more from low structure or, in some cases, are less affected by variation in structure. However, this relationship tends to be conditional. The correlation between CL and measures of achievement is negative in learning situations which involve recall and memory whereas CL positively correlates with achievement in learning situations which require more synthesis, analysis, and the generation of alternatives. (Hunt, 1971, p. 40 - 3). In addition, goal-seeking behavior serves a different function and has different properties at different structural levels. (Shroder, 1967, p. 36).

Having decided to investigate the relationship of the Conceptual Level Model to goal-setting behavior, it was necessary to create useful descriptors for this behavior. I decided to restrict my attention to the result of goal-setting behavior - a goal. Beyond this it seemed useful to assess the extent learners not only set goals but also perceive their goals to be adequate for their purposes. And, as this study was concerned with goal-setting in formal education settings, I chose to obtain information about only the content or subject matter goals of the learners and chose to ignore other goals that the learners may have had that may have been of greater importance.

A description of an adequate learning goal was created for use in the investigation. The background for the selection of these characteristics is not within the scope of this paper but the characteristics are listed below.

First, most of the literature reviewed for the study suggests goals ought to be specific although some authors recognize a compromise must be struck between specificity and flexibility or adaptability. (Combs and Snygg, Pittenger and Gooding). The desired degree of specificity must meet the needs of the learner but a minimal level of specificity is desirable for an adequate goal. Second, an adequate goal is unique in that it must be related to or principally derived from, the perceived needs or at least interests of the learner. Third, it provides direction for the learning efforts of the learner. Fourth, it has importance as part of the learner's inquiry in a particular course. Fifth, the learner is motivated to work towards its accomplishment.

There was also some evidence to suggest that learners' attitudes toward the usefulness and importance of learning goals in formal education settings might vary. As a result, it was decided to obtain information about learners' attitudes toward goals.

The Method

A questionnaire was designed and distributed to students in selected classes in the Department of Adult Education at OISE in Summer Session 1975. This questionnaire was used to gather data concerning:

1) the subjects' perceptions of whether they had set at least one learning goal for the subject matter of the particular course in which they were enrolled,
2) an index of the subjects' ratings of the adequacy of their declared goals,
3) an index of the subjects' attitudes toward the utility and importance of learning goals in settings similar to the one used in this study,
4) an index of the subjects' perceptions of the degree of structure in the learning environment, and
5) a measure of the Conceptual Level of each subject.

Hunt has developed a semi-projective test to index Conceptual Level. Instruments were developed to obtain information concerning the remaining four variables.

Questionnaires were personally distributed to 106 subjects. Of these 68 (64 percent) were used to determine indices for each variable. These indices were used to determine simple frequency distributions and were used in a correlation and a contingency analysis for all

variable pairs. The results of the bivariate correlation analysis are only highlighted in the next section. Complete details as well as the questionnaire are available from the author on request.

The Results

The data are described narratively in this section and are included in summarized tabular form in an appendix. The principal findings are outlined below.

When asked if they had set a learning goal for a particular course, 7 (11 percent) of the respondents indicated "no," 11 (18 percent) indicated "not sure," and 45 (71 percent) indicated "yes." Respondents who indicated "not sure" or "yes" to the above question, were asked to rate their declared goal on several characteristics developed for an adequate goal. (See table 1).

These ratings permitted this investigator to index respondents with respect to the extent they had completed the process of setting an adequate learning goal. On this basis, 6 (10 percent) of the respondents' goals were considered to be not adequate, 10 (16 percent) were considered to be partially adequate, and 47 (74 percent) were considered to be adequate. (See table 3)

Subjects were also asked the approximate time they became aware of their declared goal. Twenty-seven (43 percent) of the respondents set their goal prior to the course, and only 7 (11 percent) of the respondents set their declared goal as late as the third week of the course. (See table 4)

With respect to Conceptual Level, 13 (21 percent) of the CL scores were considered to be low, 21 (33 percent) were medium, and 29 (46 percent) of the CL scores were considered to be high. (See table 5).

An attitude scale was developed to index the subjects' attitudes toward the utility and importance of learning goals in settings similar to the one used in this study. Indices obtained from this instrument revealed that 1 (2 percent) of the respondents reported a negative attitude, 18 (30 percent) reported a mixed attitude, that is, neither distinctly positive nor distinclty negative, and 42 (68 percent) of the respondents reported a positive attitude toward learning goals. (See table 7).

Subjects were also asked to index the relative importance of the respondents, other students, and the instructor in decision-making in the learning environment. Environments in which the respondents were at least as important as, or more important than, the other sources of decision-making were considered to have a high degree of structure and vice versa for a low degree of structure. Medium structure settings were considered to be neither distinctly high nor distinctly low in structure. On the basis of these indices, 24 (39 percent) of the respondents to this question indicated that the degree of structure was low, 22 (35 percent) indicated it was medium, and 16 (26 percent) indicated it was high. (See table 8). In addition, 14 (23 percent) of the respondents indicated that overall, other students were a more important

source of decision-making than the instructor. (See table 9).

The indices obtained for each of the variables were used in a correlation analysis to determine the degree of association between variable pairs.

As expected there was a positive relationship (rho = .312, $p < .01$) between the respondents' attitudes toward learning goals and the extent they actually set a goal. There was also a positive relationship (rho = .419, $p < .01$) between the respondents' attitude toward learning goals and the extent they rated the adequacy of their goals.

Both higher and lower Conceptual Level (CL) learners appear to actually set learning goals but there was a positive relationship (rho = .220, p = .05) between CL and ratings of adequacy given by respondents to their learning goals. Higher CL learners appear to be advantaged with respect to setting adequate learning goals. Higher degrees of structure in the learning environment as perceived by the learners, are associated with greater degrees of goal-setting. However, the degree of structure does not appear to be related to the extent learners rate the overall adequacy of their goals but higher degrees of structure are positively related to two characteristics of an adequate goal:

1) the extent to which their learning goals are an important part of their inquiry and,
2) the extent to which these goals are derived from their own interests.

There are also differences between higher and lower CL learners among the four items used to obtain adequacy ratings for the respondents' learning goals. There are no significant differences between higher and lower CL learners with respect to the importance of their learning goal in their inquiry or the extent to which their learning goals helped the respondents to decide the next step or steps of their inquiry. However, higher CL learners appear to give higher ratings to the motivating quality of their learning goals and higher ratings to the extent to which their learning goals were derived from their own interests.

There were two items on the attitude scale for which the mean score for all respondents was lower than the mean scores obtained for the other items on the attitude scale. The differences in the mean score for these two items compared to the mean scores for the other items, although not significant, do suggest that respondents were concerned about the limiting effects of goal-setting. Respondents appeared to express some concern about the extent goal-setting reduced their ability to see important alternative learning goals and the degree to which they did not like to pin down their interests by setting goals.

Implications for the Facilitation of Goal-Setting

There are four variables which appear to have some effect on the setting of learning goals and/or setting of adequate learning goals. Their importance and potential usefulness to the instructor or program

planner is discussed in the remainder of this section.

Time into the Duration of the Course

The total number of learners who have set a learning goal appears to increase as time into the duration of the course increases. The instructor of a course can safely assume that not all learners have set a learning goal for a course at the beginning of that course. Some time into the duration of the course must be allowed before the majority of learners can be expected to have set a learning goal. The results of this study suggest that the majority of learners have set a learning goal by the end of the second week of a Summer Session course. The length of time, however, does not appear to have any relationship to the adequacy of the learner's goals.

Attitude Toward Goals

A learner's attitude toward the utility and importance of learning goals as an aspect of his or her inquiry is clearly an important factor in setting learning goals and setting adequate learning goals. It may be possible for an instructor to have some influence on a learner's attitude toward learning goals within the short time frame of a course. The important factors which contribute to the formation of a positive attitude toward goal-setting are not known.

However, as described in Chapter IV, a comparison of items on the attitude scale suggests that at least some learners indicate concern about the limiting or restricting consequences of goal-setting and in particular, those learners who feel highly motivated to work towards their goal. This type of concern may be reduced in four

general ways. First, the instructor can set general boundaries for his or her expectations of the latitude and depth of the learner's inquiry. Second, the instructor can emphasize that goal-setting may have an evolutionary and a mutable character. Third, the instructor can set a general time frame in which the exploration of goals is a legitimate activity and during which there is little pressure for the learner to set and declare learning goals. Fourth, the instructor can suggest a range of possible or previously set goals upon which the learner can build and expand if he or she chooses.

Conceptual Level

It seems clear that higher CL learners set learning goals that are rated as more adequate than the learning goals of lower CL learners. The learning goals of lower CL learners appear to possess the characteristics of adequacy to a lesser extent and to be the result of more compliant behavior. Without knowing the CL of the learners in a class which would typically be mixed, the instructor can expect three things. First, the adequacy of the learners' goals will vary. Second, some learners would prefer to adopt or partially adopt externally derived goals. Third, the motivating qualities of the learners' goals will vary as will the extent to which the learners' goals are derived from their own interests. Higher CL learners tend to give higher ratings to both of these qualities.

The Degree of Structure

Higher degrees of structure appear related to greater degrees of goal-setting. However, there is likely an optimal degree of structure beyond which goal-setting is inhibited. Moderate degrees of structure appear more useful than lower degrees of structure. There may be some value in creating higher degrees of structure in the initial stages of a course which then diminish to moderate degrees of structure further into the duration of a course. The results of this study would suggest that low degrees of structure are not appropriate for learners with similar distributions of CL and experience with goal-setting. This is particularly true in settings which are new to the learner where any advantages possessed by higher CL learners are diminished.

It may be possible to create moderate degrees of structure by having the instructor suggest boundaries for legitimate expectations of the course, by identifying possible ranges and directions for the learner's inquiry, by suggesting preferred or possible modes of interaction and decision-making, and carefully outlining the procedure for evaluation. Moderate degrees of structure may be created by having learner's form smaller interest groups after the initial stages of the course.

It is expected that lower CL learners would prefer to adopt or partially adopt the suggestions of the instructor whereas higher CL learners are more likely to build on the given foundation or alter it, sometimes considerably, within the guidelines outlined by the instructor.

SUBJECTS' RESPONSES CONCERNING THE EXTENT
TO WHICH THEY HAD SET A LEARNING GOAL

Response	Number of Subjects	Percent
No	7	11
Not sure	11	18
Yes	45	71
Total	63	100

TABLE 2

SUBJECTS' RATINGS OF THE EXTENT THEIR LEARNING
GOALS HAD QUALITIES OF MOTIVATION,
IMPORTANCE, UNIQUENESS, AND DIRECTION[a]

Attributes of Learning Goal	Subjects' Ratings of Attributes of Their Learning Goals				
	Md[b]	Mode	Q[c]	$(\bar{X})^d$	$(V)^e$
MOTIVATION	6.1	6	.42	(6.0)	(0.61)
IMPORTANCE	6.0	6	.48	(6.0)	(0.55)
UNIQUENESS	6.5	7	.63	(6.1)	(1.57)
DIRECTION	5.7	6	.70	(5.4)	(1.81)
					n = 56

a - Ratings were obtained from this scale:

I	I	I	I	I	I	I	I
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
very little	a little	not much	uncertain	some	a lot	very much	

TABLE 3

NUMBER OF RESPONDENTS JUDGED BY THE INVESTIGATOR
TO HAVE SET A LEARNING GOAL THAT WAS EITHER
NOT ADEQUATE, PARTIALLY ADEQUATE OR ADEQUATE

Level of Adequacy	Number of Subjects	Percent
Not adequate	6	10
Partially adequate	10	16
Adequate	47	74
Total	63	100

TABLE 4

THE APPROXIMATE TIME RESPONDENTS BECAME AWARE OF THEIR DECLARED LEARNING GOAL FOR A PARTICULAR COURSE

Approximate Time	Number of Respondents	Percent
Prior to the course	27	43
During the first week of the course	12	19
During the second week of the course	11	17
During the third week of the course	7	11
Had not set a goal	6	10
TOTAL	63	100

TABLE 5

THE FREQUENCY DISTRIBUTION OF LOW, MEDIUM, AND HIGH CONCEPTUAL LEVELS

Conceptual Level	Number of Respondents	
	Number	Percent
Low	13	21
Medium	21	33
High	29	46
TOTAL	63	100

TABLE 6

NUMBER OF REPORTED LEARNING GOALS JUDGED TO BE EITHER GENERAL, FAIRLY SPECIFIC OR SPECIFIC

Level of Specificity	Number of Respondents	Percent of Response
General	25	45
Fairly Specific	28	50
Specific	3	5
No Response	7	N/A
Total	63	100

TABLE 7

THE FREQUENCY DISTRIBUTION OF ATTITUDE[a]

Attitude[b]	Number of Respondents	Percent
Negative	1	2
Mixed[c]	18	30
Postive	42	68
No response	2	N/A
Total	63	100

THE FREQUENCY DISTRIBUTION OF
DEGREE OF STRUCTURE[a]

DEGREE OF STRUCTURE	Number of Respondents	Percent of Responses
Low	24	39
Medium	22	35
High	16	26
No response	1	N/A
TOTAL	63	100

TABLE 9

THE RELATIVE IMPORTANCE OF THE INSTRUCTOR, OTHER STUDENTS, AND THE RESPONDENT IN DECISION-MAKING IN THE LEARNING ENVIRONMENT[a]

General Area of Decision-Making	Relative Ratings of Importance					
	MdI[b]	$(\bar{X}I)$[c]	MdS[d]	$(\bar{X}S)$[e]	MdR[f]	$(\bar{X}R)$[g]
Quality	5.7	(5.5)	4.2	(4.0)	6.3	(6.3)
Quantity	5.8	(5.5)	3.6	(3.7)	6.4	(6.2)
Content	5.6	(5.2)	4.7	(4.2)	6.2	(5.8)
Interactions with Others	5.6	(5.1)	5.8	(5.5)	6.1	(5.9)
Procedure for Evaluation	6.1	(6.0)	3.6	(3.6)	5.1	(4.7)
Role in decision-making process	6.1	(5.8)	4.8	(4.5)	5.4	(5.2)

a - Ratings obtained from this scale:

I I I I I I I

(1) very unimportant; (2) quite; (3) fairly; (4) no opinion; (5) fairly important; (6) quite; (7) very important

b - MdI, median rating of importance of instructor in decision-making.

c - $\bar{X}I$, mean of ratings of importance of instructor in decision-making.

d - MdS, median rating of importance of other students in decision-making.

e - $\bar{X}S$, mean of ratings of importance of other students in decision-making.

f - MdR, median rating of importance of respondent in decision-making.

g - $\bar{X}R$, mean of ratings of importance of respondent in decision-making.

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